1.964 Design for Sustainability

Sustainable Design Bordo International Headquarters Victoria, Australia

Presented by Raymond Kwok

Green Building Council of Australia



- Rating System
 - Based on
 - Management
 - Energy reduction
 - iii. Water reduction
 - iv. Materials selection
 - v. Emissions
 - vi. Innovation
 - vii. Transportation

- Green Star Rating
 - Rating Scale

 - 2) 2 **\(\sqrt{}\)** : 20-29 pts
 - 3) $3 \div : 30-44 \text{ pts}$
 - 4) 4 ****** : 45-59 pts
 - 5) 5 **1** : 60-74 pts
 - 6) 6 **1** : 75-100 pts





Building name	Bordo International Headquarters
Location	Victoria, Australia
Total floor area	2700 m ²
Number of storey	2
Construction time	4.5 months
Building cost	\$1.6 millions USD
GBCA rating	

Sustainable Design

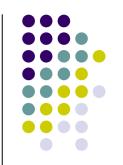
- Efficient Lighting System
 - Building orientation
 - The long sides of the building is oriented to the east and the west to maximize amount of daylight received
 - Interior lights
 - T5 fluoro white lights are carefully spaced
 - No lights are needed in some perimeter offices of the building during the daytime due to the increased natural lighting

Sustainable Design



- Natural Ventilation
 - Manually operable windows are installed in the N & S sides of the building to provide X-flow ventilation
 - no mechanical system is needed to provide ventilation
- Ceiling Insulation
 - Super-insulated ceilings to reduce heat penetration
- Rainwater tank
 - To collect and store rainwater from the roof to supply for 90% of landscape irrigation and toilet flushing needs





Total cost	\$1.6m
Cost for sustainable design	\$45000
Predicted operational savings per annum	\$4000
NPV after 5 & 10 years	\$25000 & 35000
Payback period	~4 years





Standard office building energy consumption	600 MJ/m ² /annum
Bordo International Office Building energy consumption	192 MJ/m²/annum
Percentage energy saving	68%
Estimated energy saved	~250,000 MJ/annum
Estimated greenhouse pollution saved	~100 tons CO ₂ eq/annum

Questions?

